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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/670,191	09/26/2003	Jung-bum Suh	1293.1858	5225

21171 7590 07/31/2007
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EXAMINER	
PATEL, GAUTAM	

ART UNIT	PAPER NUMBER
2627	

MAIL DATE	DELIVERY MODE
07/31/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/670,191	SUH, JUNG-BUM	
	Examiner	Art Unit	
	Gautam R. Patel	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,6,9,10,15-17,19 and 20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *1-2, 6, 9-10, 15-17 and 19-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Response to Amendment

1. This is in response to amendment filed on 6/27/07.

2. claims 1-2, 6, 9-10, 15-17 and 19-20 remain for examination.

IMPORTANT NOTE

3. It seems typographical error has been made by the Applicants. Claim 19 depends upon itself. It should depend upon claim 16.

NOTE: **Correction in next office action is required**.

Claim Rejections - 35 U.S.C. § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-2, 6, 9-10, 15-17 and 19-20 are rejected under 35 U.S.C. § 102(b) as being anticipated by Tanaka et al., US. patent 6,388,963 (hereafter Tanaka).

As to claim 1, Tanaka discloses the invention as claimed, a method of controlling tracking [see Figs. 2, 11, 13 & 17-18] including monitoring the tracking actuator and returning the objective lens, comprising the steps of:

monitoring whether the tracking actuator [fig. 13, unit 68] deviates from a dynamic range based on a signal controlling the feed motor when tracking is performed, wherein the monitoring comprises comparing the signal controlling the feed motor with a predetermined reference value, and determining that the tracking actuator deviates from the dynamic range when the signal controlling the feed motor is greater than the predetermined reference value for a predetermined time [col. 16, line 59 to col. 17, line 6; and col. 20, lines 33-43]; and

returning the objective lens [fig. 2, unit 65] connected to the tracking actuator to a neutral point directly in response to the determining that the tracking actuator deviates from the dynamic range [col. 20, line 48 to col. 21, line 4; & col. 4, line 63 to col. 5, line 25],

wherein the predetermined reference value is set based on the dynamic range and a movable range of the tracking actuator [col. 16, line 59 to col. 17, line 6; and col. 20, lines 33-43].

NOTE: erroneous continuation such that lens is scratched is by definition the extreme limit. Also see limits to be +- 17% and +- 20.0%.

5. The aforementioned claim 2, recites the following steps, inter alia, disclosed in Tanaka:

the returning of the objective lens is performed by turning off a tracking servo of the disc drive [col. 20, line 48 to col. 21, line 4; & col. 4, line 63 to col. 5, line 25 and figs. 13-15].

6. The aforementioned claims 6 and 15, recites the following steps, inter alia, disclosed in Tanaka:

the predetermined reference value is set at a value approaching a limit of the dynamic range [+- 20%] of the tracking actuator [col. 16, line 59 to col. 17, line 6; and col. 20, lines 33-43].

7. The aforementioned claim 9, recites the following steps, inter alia, disclosed in Tanaka:

an optical pickup [fig. 13, units 61, 64, 67, 68 etc.] outputting a radio frequency signal from a signal picked up from a disc loaded in the disc drive when the disc drive is driven;

a radio frequency amplifier [fig. 13, unit 85] outputting a tracking error signal detected from the radio frequency signal;

a servo control unit [fig. 16 unit 8B] outputting a control signal for driving the tracking actuator and the feed motor based on the tracking error signal output from the radio frequency amplifier; and

a control unit [fig. 16, unit 8B and 97] monitoring the control signal for driving the feed motor output from the servo control unit, wherein the control unit compares the control signal for driving the feed motor with a predetermined reference value, and when the control signal is greater than the predetermined reference value for predetermined time, determines that the tracking actuator deviates from the dynamic range and directly in response to determining that

the tracking actuator deviates from a dynamic range, controls the servo control unit to return the objective lens connected to the tracking actuator to a reference position [col. 16, line 59 to col. 17, line 6; and col. 20, lines 33-43],

wherein the predetermined reference value is set based on the dynamic range and a movable range of the tracking actuator [col. 16, line 59 to col. 17, line 6; and col. 20, lines 33-43].

NOTE: erroneous continuation such that lens is scratched is by definition the extreme limit. Also see limits to be +- 17% and +- 20.0%.

8. The aforementioned claim 10, recites the following steps, inter alia, disclosed in Tanaka:

the control unit controls the servo control unit to turn a tracking servo off to return the objective lens to the reference position, preventing damage [col. 17, lines 3-6] to the tracking actuator and the objective lens when an over-current flows through tracking coils due to the tracking actuator deviating from the dynamic range [col. 16, line 59 to col. 17, line 6; and col. 20, lines 33-43].

9. As to claim 16, it is rejected for the similar reasons set forth in the rejection of claim 9, supra.

As to added limitation Tanaka discloses:

a tracking actuator [unit 68; fig. 13] driver that drives the tracking actuator using the control signal output from the servo control unit to move the objective lens in a tracking or radial direction of the disc [col. 16, line 11 to col. 18, line 23].

NOTE: Here the Applicants are merely claiming how a tracking actuator works.

10. The aforementioned claim 17, recites the following steps, inter alia, disclosed in Tanaka:

the disc is a compact disc (CD) or a digital versatile disc (DVD) [col. 1, lines 13-15].

11. The aforementioned claim 18, recites the following steps, inter alia, disclosed in Tanaka:

a tracking actuator driver that drives the tracking actuator using the control signal output from the servo control unit to move the objective lens in a tracking or radial direction of the disc [col. 6, lines 22-47 & col. 7, lines 5-33].

12. The aforementioned claim 19, recites the following steps, inter alia, disclosed in Tanaka:

an equalizer [fig. 11, unit 230] receiving the control signal output from the servo control unit and outputting a low frequency band signal, the low frequency band signal representing an amount of deviation of the objective lens from a neutral point within the dynamic range [col. 15, lines 57-60 and col. 16, lines 27-58].

13. The aforementioned claim 20, recites the following steps, inter alia, disclosed in Tanaka:

a feed motor driver [inherently present when feed motor is being driven] driving the feed motor to move the tracking actuator using the low frequency band signal output from the equalizer, a moving distance of the feed motor being a distance the tracking actuator is moved to return the objective lens to the neutral point [col. 20, line 48 to col. 21, line 4; & col. 4, line 63 to col. 5, line 25].

14. Applicant's arguments filed on 6/27/07 have been fully considered but they are not deemed to be persuasive for the following reasons.

In the REMARKS, the Applicant argues as follows:

A) That: "the Examiner relies upon column 16, line 59 to column 17, line 6 of Tanaka. This portion refers to the tracking error being more than a predetermined value, for example 20 %. However, this error is not related to a dynamic range" [page 6, paragraph 3; REMARKS].

It seems we have problem of semantics here. It is true Tanaka is not using word dynamic range. However so called "dynamic range" is nothing more that a operational safe range. And Tanaka does clearly disclose it.

B)That; "claim 6 recites the predetermined reference value set at a value approaching a limit of the dynamic range of the tracking actuator. According to Examiner, erroneous continuation such that the lens is scratched is by definition the extreme limit. Applicants respectfully disagree. Preventing scratching does not necessarily imply the limit, because Tanaka could conceivably be taking a more conservative approach. Tanaka could be using a lower limit of error than the maximum possible limit" [page 6, paragraph 4; REMARKS].

FIRST: The Applicants are not claiming a maximum possible limit.

SECOND: Tanaka uses two limits +- 17 % and +- 20 %.

THIRD: It is improper to guess what Tanaka may or may not be doing. One should only look at what Tanaka is actually doing and not what he could conceivably be doing..

15. **THIS ACTION IS MADE FINAL**. See M.P.E.P. § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Contact information

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gautam R. Patel whose telephone number is 571-272-7625. The examiner can normally be reached on Monday through Thursday from 7:30 to 6.

The appropriate fax number for the organization (Group 2600) where this application or proceeding is assigned is 571-273-8300.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Dwayne Bost, who can be reached on (571) 272-7023.

Any inquiry of a general nature or relating to the status of this application should be directed to the Electronic Business Center whose telephone number is 866-217-9197 or the USPTO contact Center telephone number is (800) PTO-9199.

GAUTAM R. PATEL
PRIMARY PATENT EXAMINER

Gautam R. Patel
Primary Examiner
Group Art Unit 2627

July 27, 2007